IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FOREST LABORATORIES, LLC, FOREST LABORATORIES HOLDINGS, LTD., MERCK KGAA and MERCK PATENT GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG,	)	
Plaintiffs,	)	C.A. No. 15-272-GMS (consolidated)
v.	)	
ACCORD HEALTHCARE, INC.,	)	
Defendant.	)	

DEFENDANTS' ANSWERING CLAIM CONSTRUCTION BRIEF

John C. Phillips, Jr. (#110)
David A. Bilson (#4986)
PHILLIPS, GOLDMAN MCLAUGHLIN & HALL, P.A.
jcp@pgmhlaw.com
dab@pgmhlaw.com

Attorneys for Defendant Accord Healthcare, Inc.

Neal C. Belgam (#2721)
Eve H. Ormerod (#5369)
SMITH, KATZENSTEIN, & JENKINS LLP
nbelgam@skjlaw.com
eormerod@skjlaw.com

Attorneys for Defendants Alembic Global Holdings SA, Alembic Pharmaceuticals, Inc. and Alembic Pharmaceuticals Ltd.

Kenneth Laurence Dorsney (#3726)
MORRIS JAMES LLP
kdorsney@morrisjames.com

Attorneys for Defendants Apotex Corp. and Apotex Inc.

R Touhey Myer (#5939)
CAESAR RIVISE, PC
tmyer@crbcp.com

Attorneys for Defendant InvaGen Pharmaceuticals Inc.

David E. Moore (#3983)
Bindu A. Palapura (#5370)
Stephanie E. O'Byrne (#4446)
POTTER ANDERSON &CORROON LLP
dmoore@potteranderson.com
bpalapura@potteranderson.com
sobyrne@potteranderson.com

Attorneys for Defendant Teva Pharmaceuticals USA, Inc.

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I. INTRODUCTION

Defendants[1] respectfully submit this brief in response to the proposed claim constructions set forth in the opening brief (D.I. 87) filed by Plaintiffs[2] on June 22, 2016, in this Hatch-Waxman case regarding proposed generic versions of the drug Viibryd®. The patents-in-suit are U.S. Patent Nos. 7,834,020 (the "'020 patent"), 8,193,195 (the "'195 patent"), 8,236,804 (the "'804 patent"), and 8,673,921 (the "'921 patent"), which all relate to crystalline forms of the chemical vilazodone hydrochloride ("HCl") and their use in treating depression and other disorders.

II. LEVEL OF ORDINARY SKILL IN THE ART

Defendants concur with Plaintiffs' assertion that a person of ordinary skill in the art ("POSA") would have "at least a bachelor's degree in chemistry, pharmaceutical sciences, or a related discipline, along with several years of experience working in pharmaceutical solid product development and/or solid state chemistry." Plaintiffs' Opening Claim Constr. Br. at 3 (D.I. 87, June 22, 2016) ("Pls.' Br."). In addition, a POSA would have taken the prescribed number of Good Manufacturing Practice trainings. *See* Declaration of Piotr H. Karpinksi ¶¶ 17-18 (July 27, 2016) ("Karpinski Decl.") (filed concurrently with this motion). For purposes of the disputed method of treatment claims, a POSA may also be an M.D. with extensive experience in the study and treatment of mood disorders, including depression. *See* Karpinski Decl. ¶ 19; Declaration of Eric Lenze ¶ 6 (July 27, 2016) ("Lenze Decl.") (filed concurrently with this motion).

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[1] The "Defendants" are Accord Healthcare, Inc., Alembic Global Holding SA, Alembic Pharmaceuticals Inc., Alembic Pharmaceuticals Ltd., Apotex Inc., Apotex Corp., Teva Pharmaceuticals USA, Inc., and InvaGen Pharmaceuticals Inc.

[2] The Plaintiffs are Forest Laboratories, LLC, Forest Laboratories Holdings, Ltd., Merck KGaA, and Merck Patent Gesellschaft mit beschränkter Haftung.

III. CONSTRUCTIONS OF DISPUTED CLAIM TERMS

A. "administer[ed/ing]"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"administer" "administered" "administering"	'020 patent, claim 2 '195 patent, claims 1-2 '804 patent, claim 1 '921 patent, claims 10, 12-14	Plain meaning/no construction required	Deliver[ed/ing] into the body

The point of the claims at issue is to "treat" a patient with a drug. The treatment will not happen unless the drug enters the patient's body; merely distributing the drug to the patient is not enough. Plaintiffs point to a doctor prescribing the medication to a patient as an example of "administer[ed/ing]." However, alone, a doctor's prescription note does not treat a condition. *See* Lenze Decl. ¶¶ 29-31. Dr. Thase's claim that a pharmacist may "administer" medication simply by filling the prescription similarly fails to treat a condition. *See* Declaration of Michael Thase ¶ 48 (D.I. 89, June 22, 2016); Lenze Decl. ¶¶ 30-31. The patient is treated only after ingestion of the prescribed medication. *See* Lenze Decl. ¶¶ 30-31. Moreover, under Plaintiffs' definition, even a mail carrier could be considered to have administered medication upon delivering mail-order medicine to a patient. No POSA would interpret "administer[ed/ing]" so broadly, nor did the intrinsic record. *See id.* ¶¶ 29-31. Plaintiffs' construction should be rejected because it is overly broad and eliminates a necessary step (getting the drug into the body) for treatment to occur.

Despite Plaintiffs' and Dr. Thase's unsupported assertions, "providing a patient a drug or treatment for therapeutic purpose" is not the plain meaning that a POSA, reading the patents-in-suit would attribute to "administer[ed/ing]." *See* Lenze Decl. ¶¶ 29-31. The specification never describes writing or filling a prescription as a route of administration. Rather, it describes the

"Products of the Invention" as being formulated into "conventional forms of administration, including peroral and parenteral forms." '804 patent 15:29-32. The phrase "peroral and parenteral forms of administration" describes the path taken by the drug into the body. Defendants' construction properly construes "administer[ed/ing]" in a way that is consistent with the scope of the claims, the logical interpretation of a POSA and the plain meaning of the term. Accordingly, as this Court has recently held and the Federal Circuit has recently affirmed, "administer[ed/ing]" should be construed as "deliver[ed/ing] into the body." *Takeda Pharm. Co. v. Actavis Labs. FL, Inc.*, C.A. No. 15-451-RGA, 2016 WL 3193188, at *2-3 (D. Del. Jun. 6, 2016); *Andrulis Pharm. Corp. v. Celgene Corp.*, C.A. No. 13-1644-RGA, 2015 WL 3978578, at *2-3 (D. Del. Jun. 26, 2015), *aff'd* No. 2015-1962, 2016 WL 3755929 (Fed. Cir. July 14, 2016) (per curiam).

B. "effective amount"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"effective amount"	'195 patent, claims 1-2 '804 patent, claim 1 '921 patent, claims 13-14	Amount sufficient to promote a therapeutic effect	An amount of the specified crystalline modification of vilazodone HCl sufficient to produce the desired effect

1. "effective amount" Refers to Crystalline Modifications of Vilazodone HCl.

Defendants agree with Plaintiffs that the "patents-in-suit relate to **crystalline** forms of the compound vilazodone HCl." Pls.' Br. at 1 (emphasis added). Each of the claims of the patents-in-suit which recites an "effective amount" refers to an effective amount of a specified crystalline modification of vilazodone HCl:

> '804 patent, claim 1 recites "a pharmaceutical composition comprising an **effective amount** of [vilazadone hydrochloride] . . . in **crystalline** modification IV."

> '195 patent, claim 1 recites "an **effective amount** of a compound which is a **crystalline** hydrochloride salt"; claim 2 depends from claim 1.
>
> '921 patent, claim 13 recites "administering to the patient in need thereof an **effective amount** of a compound, wherein the compound is 1-[4-(5-cyanoindol-3-yl)butyl]-4-(2-carbamoyl-benzofuran-5-yl)-piperazine hydrochloride monohydrate in its **crystalline** modification (V)"; claim 14 depends from claim 13.

In every instance in which an "effective amount" is referenced in the patents-in-suit, it refers to crystalline vilazodone HCl. Plaintiffs concede that "[e]ach of the claims at issue explicitly identifies what substance must be present in an 'effective amount.'" Pls.' Br. at 16. In every instance, the claimed substance is a **crystalline** modification of vilazodone HCl.

Plaintiffs argue that "[c]laim 1 [of the '195 patent] does not recite an effective amount of a 'crystalline modification,' but rather an effective amount of 'a crystalline hydrochloride salt' of vilazodone." *Id.* This argument supports Defendants' proposed construction because a crystalline hydrochloride salt of vilazodone is a crystalline modification of vilazodone HCl – even under Plaintiffs' proposed construction of "crystalline modification" to mean a "crystalline form." *See id.* at 4. Further, a POSA reviewing the claims would need to understand what particular forms of crystalline vilazodone they are directed to, because the specific form being administered can have a direct impact on the amount sufficient to cause a therapeutic effect in the patient. *See* Lenze Decl. ¶¶ 24-26. A POSA reviewing claim 1 of the '195 patent would understand the claim to be limited to the forms of crystalline vilazodone disclosed in the patent. *See id.* ¶ 26.

Plaintiffs' argument that an "effective amount" is not limited to the specified **crystalline** modifications of vilazodone HCl is simply incorrect. Under Plaintiffs' construction, a composition containing vilazodone that is effective in treating any of the disorders disclosed in the patents-in-suit but which contains only a trace amount of any of the specifically recited

crystalline modifications of vilazodone HCl would be considered an effective amount. Dr. Thase suggests that the crystalline forms being administered may be one step in a drug treatment regimen including other drugs that in combination produce an effect, however the claims clearly do not attempt to claim such a regimen. *See* Lenze Decl. ¶ 27. The claims specifically require an effective amount of crystalline modifications of vilazodone HCl. Thus, the desired effect of treating one or more of the disorders disclosed in the patents-in-suit must be produced by a claimed crystalline modification of vilazodone HCl, not some other pharmaceutical composition or some other unclaimed form(s) of vilazodone HCl.

Accordingly, the term "effective amount" as used in the patents-in-suit should be construed to mean "an amount of the specified crystalline modification of vilazodone HCl sufficient to produce the desired effect."

2. An "effective amount" Must "produce" Rather Than Merely "promote" the Desired Effect.

The parties further disagree about whether an effective amount of a crystalline modification of vilazodone HCl must "produce" or merely "promote" a desired effect.

Plaintiffs argue that "[c]linicians understand that virtually no medicine is effective 100% of the time or in 100% of patients." Pls.' Br. at 16. However, a clinician would consider an "effective amount" or "efficacious dose" of a drug to be an amount necessary to produce or cause the desire effect. *See* Lenze Decl. ¶¶ 21-22. If the Plaintiffs' proposed construction is correct then the amount necessary to "promote" an effect would be largely irrelevant, because simply introducing a drug that is known to potentially cause a therapeutic effect in some patients would be "promoting" a result. *See id.* ¶ 23.

As referenced above, Plaintiffs further argue that a drug product or treatment regimen may include two or more components, each of which contributes to – or promotes – the desired

effect, and that in such a therapy, there may be an effective amount of each component even if no component alone is present in an amount sufficient to produce the desired effect. *See* Pls.' Br. at 17. Again, this argument is irrelevant to the claims of the patents-in-suit. The pertinent claims recite an effective amount of specified crystalline modifications of vilazodone HCl. No other pharmaceutical substances are recited in the claims, and the "effective amount" is directed solely to the specified crystalline modifications of vilazodone HCl. Thus, the claim language itself requires that the effective amount be of the claimed composition, *i.e.*, the specified crystalline modifications of vilazodone HCl.

Put simply, if a particular amount of a specified crystalline modification of vilazodone HCl is administered to a patient, and that amount of that crystalline modification of vilazodone HCl does not produce the desired effect, that particular amount cannot be considered an effective amount. Accordingly, an "effective amount" of a specified crystalline modification of vilazodone HCl as used in the patents-in-suit means an amount of the specified crystalline modification of vilazodone HCl sufficient to **produce** the desired effect.

Conversely, if the Court were to adopt Plaintiffs' proposed claim construction such that an effective amount need only contribute to a desired effect, such a claim construction might cover a composition in which the vilazodone is essentially completely in another form (*e.g.*, a different crystalline modification) but which includes merely a trace amount of the specified crystalline modifications of vilazodone HCl.

As explained in Defendants' opening claim construction brief, Plaintiffs' proposed construction of "effective amount" clearly goes against the plain language of claim 1 of the '804 patent, which specifically recites crystalline modification Form IV of vilazodone. *See* Defs.' Opening Claim Constr. Br. at 6 (D.I. 86, June 22, 2016) ("Defs.' Br."). For example, if a 10 mg

tablet contained 0.01 mg of vilazodone crystalline modification Form IV and 9.99 mg of a different crystalline modification form of vilazodone, then under Plaintiffs' proposed construction, Plaintiffs would assert that the 0.01 mg of crystalline modification Form IV contributes to (and therefore "promotes") the patient's treatment. But, the clear meaning of claim 1 of the '804 patent requires that the vilazodone crystalline modification Form IV itself be present in an effective amount, not merely in trace amounts.

Contrary to Plaintiffs' assertion, Defendants' construction is not inconsistent with the parties' agreed construction of "treating" as "attempting to cause a therapeutic effect on." *See* Jt. Claim Constr. Charts, Ex. A (D.I. 80-1, May 25, 2016). To "cause" is to "bring[ ] about an effect." Webster's Third New International Dictionary 356 (Merriam-Webster, Inc. 1993). Defendants' proposed claim construction – which recites to "produce" or cause a desired effect – is more accurate than Plaintiffs' proposed construction that the claimed crystalline modification of vilazodone merely "promote" (*i.e.*, "encourage" or "contribute to") a desired effect.

Accordingly, the term "effective amount" as used in the patents-in-suit should be construed to mean "an amount of the specified crystalline modification of vilazodone HCl sufficient to produce the desired effect."

C. "crystalline modification" and "crystalline"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"crystalline modification" or "crystalline"	'020 patent, claim 1 '195 patent, claim 1 '804 patent, claim 1 '921 patent, claims 1, 5, 11, 13	Crystalline form (for "crystalline modification"), plain meaning/no construction required (for "crystalline")	Entirely in crystalline form comprising only Form I to XVI, and combinations thereof (as appropriate)

1. "crystalline modification" and "crystalline" Refer to the Specific Forms Defined as the Products of the Invention, and Combinations thereof as Appropriate.

The specification unequivocally states that Forms I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XIII, XIV, XV, and XVI are the "products of the invention." *See* '921 patent 14:58-63. Plaintiffs' position that these forms are merely "exemplary" or "preferred embodiments" contrasts with the clear language of the patent designating these forms as the invention itself. The fact that the term "crystalline modifications," is utilized would inform a POSA that multiple forms are being claimed, and a POSA would look to the patents to identify the exact forms being claimed. *See* Karpinksi Decl. ¶ 22.

Plaintiffs cite (at 9) *Williamson v. Citrix Online, LLC*, 770 F.3d 1371 (Fed. Cir. 2014), and *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294 (Fed. Cir. 2003), in support of their argument that the claims should not be limited to the products of the invention. But these cases are inapposite. In *Williamson*,[3] the court concluded that the specification's disclosure of certain examples and embodiments were "consistently described in terms of preference," and the specification never limited the invention to these examples. 792 F.3d at 1347. In *Brookhill-Wilk*, the court acknowledged that one "object" of the invention was to perform an operation on a patient at a distance, but there was no language in the specification limiting the use of the invention to outside the operating room. *See* 334 F.3d at 1301.

In the present case, however, the crystalline forms of vilazodone are designated as the products of the invention for the patents-in-suit, not merely examples or objectives. They ***are*** the invention. As articulated in Defendants' opening brief, the specification admits that a prior

[3] Defendants note that the *Williamson* opinion cited by Plaintiffs was *vacated by* 603 F. App'x 1010, *superseded by* 792 F.3d 1339 (Fed. Cir. 2015).

patent – U.S. Patent No. 5,532,241 of Bottcher *et al.* ("Bottcher") – disclosed crystalline vilazodone generally. *See* Defs.' Br. at 7-8. However, the detailed descriptions of the patents-in-suit claim that "the *specific crystalline forms* of the present invention have certain advantages over the product obtained according to U.S. Pat. No. 5,532,241." '921 patent 5:4-6 (emphasis added).

> The specification discloses that:
>
> > by use of the crystalline forms of the present invention, it is possible to obtain galenic formulations having improved homogenicity, stability, purity and uniformity from one batch to the other.

Id. 5:22-25. The specification goes on to describe each of Forms I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XIII, XIV, XV, and XVI of crystalline vilazodone as the "products of the invention." In each instance, the particular form is described as "according to the invention," further elucidating that the forms are not merely illustrative, but are the inventions of the patents-in-suit. *Id.* 5:26; 6:13, 65; 7:40, 65; 8:41; 9:35; 10:25, 65; 11:58; 12:42, 13:14, 41, 52; 14:4, 9, 34.

> The Federal Circuit recently confirmed that:
>
> > claim terms are construed in light of the specification and prosecution history, not in isolation. The specification and prosecution history compel departure from the plain meaning in only two instances: lexicography and disavowal.

Pacing Techs., LLC v. Garmin Int'l, Inc., 778 F.3d 1021, 1024 (Fed. Cir. 2015) (internal citation omitted). In *Pacing*, the Federal Circuit acknowledged that the claim term at issue – "repetitive motion pacing system for pacing a user" – did not in itself require the claimed system to pace the user by playing back the pace information using a certain tempo. *Id.* However, the Federal Circuit affirmed the district court's construction of the disputed term to mean a system "having a data storage and playback device that is adapted to producing a sensible tempo." The Federal Circuit found that the specification "clearly and unmistakably" limited the patented system when

it stated that "objects and features of the present invention are accomplished, as embodied and fully described herein, by a repetitive motion pacing system that includes . . . a data storage and playback device adapted to producing the sensible tempo." *Id.* at 1025.

In *Baxter Healthcare Corp. v. Mylan Laboratories Ltd.*, the district court construed the phrase "injectable, aqueous pharmaceutical composition," to mean "a stable, ready-to-use aqueous parenteral solution." Nos. 14-cv-7094, *et al.*, 2016 WL 1337279, at *13-17 (D.N.J. Apr. 5, 2016). In doing so, the district court cited the fact that the patent itself was called "READY-TO-USE ESMOLOL SOLUTION" and defined the solution by reference to its stable and ready-to-use aspects throughout the specification. *Id.* at *14. The court cited repeated references to the "present invention" being described as "ready-to-use" and "stable," concluding that:

> Indeed, the language of the specification squarely matches the circumstances identified by the Federal Circuit as limiting claim scope, because the disclosure repeatedly defines the "present invention" or "product" as stable and ready-to-use, and disparages the instability and dilution requirement (or, non-ready-to-use preparation) of prior art esmolol compositions. This Court can scarcely imagine disclosures more concise and unequivocal than expressed in the specification of the '094 Patent.

Id. at *14-15.

In this case, each of the patents-in-suit is titled "Polymorphic forms of 1-[4-(5-cyanoindol-3-yl)butyl]-4-(2-carbamoylbenzofuran-5-yl) piperazine hydrochloride," indicating that particular forms are the subjects of these patents. As described in Defendants' opening brief and above, the specific forms of crystalline vilazodone are consistently referred to as the "products of the invention," in the specification, similar to the specifications in *Pacing* and *Baxter*. Further, the patents themselves were allowed by the U.S. Patent and Trademark Office over the prior art, because the alleged invention was directed to *specific* forms of crystalline vilazodone, which the prior art did not teach. *See* Defs.' Br. at 9-11. Plaintiffs' attempt to

broaden the scope of its claims to encompass any or all forms of crystalline vilazodone would contradict the prosecution history of the patents, as well as render the claims indefinite under 35 U.S.C. § 112.

2. The Term "crystalline" Requires Construction.

In each claim of the patents-in-suit, the term "crystalline" is paired with either the word "modification," or "form," with the exception of claim 1 of the '195 patent. "[C]rystalline" has been included as a separate term for construction to address this claim. For the same reasons that "crystalline modification" should be construed to refer to the specific forms that are the products of the invention, "crystalline" as used in this term should be construed the same way. This is regardless of the fact that "crystalline," may have an ordinary meaning that may differ from such a construction.

For example, in *Wyeth v. Teva Pharmaceuticals USA, Inc.*, the district court construed the term "extended release formulation" to mean a formulation containing certain specific ingredients. No. 03-cv-1293, 2005 WL 2175440 (D.N.J. Sept. 6, 2005). Although the court acknowledged that the claim term on its face implied a broader construction that did not include specific ingredients, it found that the narrow definition given to the term in the specification overcame that presumption. *See id.* at *4. In support of its construction, the court cited statements in the specification such as "the invention comprises," "formulations of this invention comprise," and the "extended release formulations of this invention are," all of which were followed by the specific ingredients the court construed the term to include. *Id.* at *5. The court rejected the patentee's argument that these statements merely identified preferred embodiments, and found that the statements definitively limited the formulations of the invention to specific ingredients. *See id.*; *see also Astrazeneca AB v. Mutual Pharm. Co.*, 384 F.3d 1333, 1341 (Fed. Cir. 2004) (specification of the patent overcomes any ordinary meaning of "solubilizer").

For the same reasons the courts in *Wyeth*, *Baxter*, and *Pacing* (discussed above) narrowly construed terms that were open to more general interpretation, the term "crystalline" in claim 1 of the '195 patent should be construed to be more limiting than simply a general crystalline form of vilazodone as proposed by Plaintiffs. Like in *Wyeth*, the specification makes clear that the only forms of crystalline vilazodone within the scope of the patent are the forms specifically disclosed, and the prosecution history of the '195 patents supports such a construction. *See* Defs.' Br. at 10; Karpinski Decl. ¶ 25. If "crystalline," as used in claim 1 of the '195 patent is interpreted to mean any possible form of crystalline vilazodone, then the patent would claim much more than is disclosed in the specification, which explicitly designates the particular forms to be the "products of the invention." Such a construction would clearly be improper. *See Chimie v. PPG Indus.*, 402 F.3d 1371, 1379 (Fed. Cir. 2005) (claims of a patent are not entitled to a broader scope than an embodiment described in a specification as the invention itself); Karpinski Decl. ¶ 26 (a POSA would understand "crystalline" as used in the '195 patent claim 1 to be referring to one or more of the 15 forms disclosed in the patent).

3. Entirely Crystalline

Plaintiffs argue that "crystalline" as used in the patents-in-suit should be construed to encompass materials that are not entirely crystalline. Such a construction goes against the plain language of the claims and the understanding of a POSA reviewing them. A POSA would understand the term "crystalline" to refer to materials that are composed solely of crystals, and that do not contain amorphous material. *See* Karpinski Decl. ¶ 20. A POSA reviewing claim 1 of the '195 patent would understand that claim's recitation of "a compound which is crystalline" to mean that the claimed compound is entirely crystalline. *See id.* ¶ 21. If the intention had been to claim a compound containing potentially both crystalline and amorphous material, a POSA would expect the compound to be recited as a mixture of the two types of material, not as solely

"crystalline." *See id.*

Plaintiffs further argue that it is redundant to define "crystalline vilazodone" in any as "entirely crystalline." Pls.' Br. at 8. Defendants maintain that it is useful to clarify for purposes of possible infringement arguments that the vilazodone included in the ANDA products at issue must be "entirely crystalline." Defendants' position is supported by the prosecution history, in which Plaintiffs distinguished the pending claims (reciting amorphous and crystalline vilazodone) from the prior art. Applicants deleted amorphous vilazodone from the claims and argued that the vilazodone in the prior art patent of Bottcher included amorphous vilazodone. *See* '020 patent history, 12/18/2009 Office Action at 5; *id.*, 3/18/2010 Reply at 10.

D. "exhibits the following XRD data"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"exhibits the following XRD data"	'020 patent, claim 1	Displays X-ray diffraction pattern consistent with the following values, with experimental error ranges (e.g., +/- 0.1° for two-theta values)	Must show all the following peaks and intensities

Plaintiffs' attempt to add "consistent with" and "e.g. +/- 0.1° for two theta values" into to the meaning of "exhibits the following XRD data" would add ambiguity and uncertainty to the claim.

The intrinsic evidence clearly shows that the term "exhibits the following XRD data" should not be construed to mean "consistent with the following values." The "data" referenced in the term "exhibits the following XRD data" was added to overcome the examiner's rejection under 35 U.S.C. § 102(b) by limiting the claim to crystalline modification Form IV. *See* '020 patent history, 3/18/2010 Reply (VB0000253-262). Accordingly, it would be improper to construe the term "exhibits the following XRD data" to expand the scope of the claim beyond the XRD data the applicants included for the specific purpose of overcoming a § 102(b) rejection.

Construing the term to mean "consistent with the following values" improperly expands the scope of the claim to include estimated peak and intensity values rather than the specific peak and intensity values that were required by the examiner. *See* Karpinski Decl. ¶¶ 29-30 (a POSA would review the claimed peaks and intensities of a compound, and if no error ranges are specified, interpret the values to be exact).

The intrinsic evidence also clearly shows that the term "exhibits the following XRD data" must not be construed to mean "with experimental error ranges (e.g., +/- 0.1° for two-theta values)." Plaintiffs' proposed interpretation – "with experimental error ranges (e.g., +/- 0.1° for two theta values)" only adds ambiguity to the term by inserting indefinite phrases such as "error ranges" and "e.g." (which a POSA would understand to mean "for example," rather than "exactly").[4] Plaintiffs' attempts to insert ambiguity into the meaning of "exhibits the following XRD data" is contrary to the purpose of claim construction, *i.e.*, resolving doubt and ambiguity in disputed claim terms. Moreover, it would also allow Plaintiffs to expand the scope of the claim beyond the specific peak and intensity values to which the applicants limited the claims during prosecution in order to overcome the examiner's rejection. The Court should not allow the Plaintiffs to regain claim coverage (the estimated values) that the examiner required them to relinquish. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (citing *Bates v. Coe*, 98 U.S. 31, 38 (1878)).

In overcoming the § 102(b) rejection, the applicants claimed specific peak and intensity values. Moreover, not only did the applicants have the opportunity to amend the claims to recite

[4] Defendants do not concede that any experimental error should be read into to the claim term "exhibits the following XRD data." However, if the Court were to read an experimental error into this term, it should be a clearly defined error, such as the **exact** experimental error defined by the footnote to Table III of the '020 patent. *See* '020 patent 27:36-37 ("The XRD instrument is controlled for 2Theta ± 0.1°.").

the approximate language that Plaintiffs now seek, but the applicants **withdrew** an amendment attempting to do exactly that. *See* '020 patent history, 9/14/2010 Withdrawal of Amendment Under 37 C.F.R. 1.312 (VB0000191). These actions evidence that a person of skill in the art, and the applicants themselves, would understand that the claims are directed solely to the specifically recited peaks and intensity values. Accordingly, the Court should construe the term "exhibits the following XRD data" to mean, "must show all the following peak and intensity values."

E. "corresponding to"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"corresponding to"	'804 patent, claims 1-3	Consistent with	Matching the precise values recited in the claims

Plaintiffs attempt to construe "corresponding to" to mean "consistent with" adds no clarity to this disputed claim term. Rather, it improperly adds ambiguity and indefiniteness to the claims.

The intrinsic evidence makes it clear that the term "corresponding to" must mean more than merely "consistent with," as is proposed by Plaintiffs. The term "corresponding to" was added to claims 1-3 of the '804 patent to replace the indefinite terms "about" and "of approximately." *See* '835 application, 10/8/2010 Office Action Summary at 2-3; *id.*, 2/8/2011 Amendment and Response to Final Office Action at 2. In the rejection, the examiner made clear that "the peaks should be claimed definitely and not use approximations." '835 application, 10/8/2010 Office Action Summary at 2-3. Accordingly, "corresponding to" cannot mean "about" or "of approximately" or any other term that allows for the values recited in the claims to be variable or approximations, including "consistent with."

Additionally, Plaintiffs' attempt to offer extrinsic evidence in the form of expert

declarations is improper. The intrinsic record contains unambiguous and unmistakable statements about the scope of the term "corresponding to." Plaintiffs' reliance on extrinsic evidence to contradict the intrinsic record is erroneous and should be rejected. "[Extrinsic evidence] may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history." *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1269 (Fed. Cir. 2001). Further, a POSA would not understand "corresponding to" to equate to "approximately," particularly when no error range has been specified by the claim terms. *See* Karpinski Decl. ¶ 31.

Based on the intrinsic evidence, the only reasonable construction for "corresponding to" is Defendants' proposed construction, "matching the precise values recited in the claims."

F. "characteristic peak"

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"characteristic peak[ ]"	'804 patent, claims 1-3	Peak representative of a crystalline form's X-ray diffraction pattern	A powder XRD peak having intensity ≥ 3*noise, which serves to identify the crystalline modification

A peak in an X-ray diffraction pattern is defined by its position (a two-theta value) and its intensity value. As Plaintiffs admit, "When the sample is a powder, the diffraction pattern is usually measured as the amount of scattering (**intensity**) on the y-axis as a function of the angle on the x-axis (2-theta), and **peaks of varying intensity** appear at specific 2-theta values in an XRD pattern." Declaration of Joel Bernstein ¶ 24 (D.I. 88, June 22, 2016) ("Bernstein Decl.") (emphases added). Thus, there appears to be no dispute that a "peak" in an X-ray diffraction pattern has both a two-theta value and an intensity value. Rather, the dispute appears to be whether a peak which is considered a "characteristic peak" has a *minimum* intensity value.

The ’804 patent discloses that the minimum intensity value of a characteristic peak is not less than 3*noise, *i.e.*, is greater than or equal to three times the noise level.

Figure 17 of the ’804 patent (reproduced below) is an x-ray diffractogram depicting characteristic peaks of crystalline vilazodone Form XIV. *See* ’804 patent 3:50, 8:33-35.

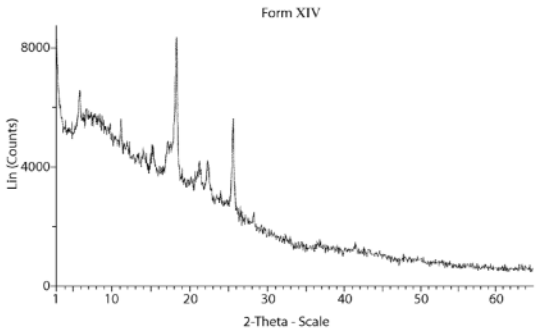

Fig. 17

Information about the characteristic peaks depicted in Figure 17 is set forth in Table III, *see* ’804 patent 26:1-7, 39-49, 27:1-11 (reproduced in pertinent parts below):

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TABLE III-continued

Data of powder-XRD-pattern of polymorphic Forms. (10 characteristic peaks of each polymorph have been taken for evaluation. The XRD instrument is controlled for 2Theta ±0.1°).

No.	d (Å)	2θ	I/I_0
	***		
	Form XIV:		
1	15.012	5.88	29
2	7.980	11.08	20
3	5.182	17.10	24
4	4.886	18.14	100
5	4.189	21.19	20
6	3.999	22.21	24
7	3.494	25.47	64
8*			
9*			
10*			
	***		

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TABLE III-continued

Data of powder-XRD-pattern of polymorphic Forms. (10 characteristic peaks of each polymorph have been taken for evaluation. The XRD instrument is controlled for 2Theta ±0.1°).

No.	d (Å)	2θ	I/I_0
	***		

*Further peaks exhibit intensities <3*noise.

In Table III, each "characteristic peak" has a position value (2θ value) and a relative intensity value (I/I_0). However, for Form XIV above, data for peaks 8, 9, and 10 are omitted. '804 patent 26:47-49. The '804 patent explains that data for peaks 8, 9, and 10 are omitted because "[f]urther peaks exhibit intensities <3*noise." *Id.* 27:11. In other words, for a peak to be considered a "characteristic peak" in the '804 patent, the peak must have an intensity value that is not less than three times the noise level.

A POSA reading the '804 patent would readily understand that the minimum intensity value of a characteristic peak as described in the '804 patent is greater than or equal to three times the noise level, and that peaks with intensity values less than 3*noise are not considered characteristic peaks. '804 patent 26:47-49, 27:11; *See* Karpinski Decl. ¶ 33.

Moreover, this interpretation is fully consistent with Plaintiffs' expert, Dr. Bernstein, who explains that "A POSA would understand that characteristic peak(s) are those peak(s) in an XRD pattern that can be used to identify a particular crystalline form and distinguish it from other materials **with confidence**." Bernstein Decl. ¶ 49 (emphasis added). Dr. Bernstein further explains that the 3*noise level signifies a high level of confidence: "The 3*noise (or 3σ) level is a statistical measure of the level of confidence in determining the presence of some observation or comparing two observations. That criterion derives from a normal distribution of the error, and the statistics are such that if the peak is 3*noise then it is said to be 'observed at the 99% confidence level.'" *Id.* ¶ 51. The '804 patent thus teaches using a high level of confidence when determining characteristic peaks, as it expressly excluded from "characteristic" any peaks with intensities less than 3*noise. '804 patent 26:47-49, 27:11. Accordingly, the '804 patent establishes that "3*noise level" provides the appropriate level of confidence necessary to identify the minimum intensity of a characteristic peak.

Although Plaintiffs allege a POSA reliably can identify a specific crystalline form based on peaks with intensities less than 3*noise, *see* Bernstein Decl. ¶¶ 50-52, this ignores the disclosure of the '804 patent which only identifies peaks as "characteristic" when their intensity value is greater than or equal to three times the noise level. Further, a POSA would not understand the peaks designated by the patent as "characteristic peaks" as being merely representative, but as serving to identify the crystalline modification. *See* Karpinski Decl. ¶ 34.

The '804 patent thus excludes peaks that are too weak to significantly stand above the background noise from being considered "characteristic peaks," *i.e.*, where the confidence level would be below 99%. Plaintiffs' proposed construction, which omits any intensity value, is incorrect since it ignores the express teaching of the '804 patent. The Court should adopt Defendants' proposed construction of a "characteristic peak," *viz.*, "a powder XRD peak having intensity ≥3*noise, which serves to identify the crystalline modification."

G. The Preamble Term "A method of treating" is Not Limiting.

Claim Term	Patent & Claim	Plaintiffs' Construction	Defendants' Construction
"A method of treating a patient suffering from a depressive disorder, an anxiety disorder, a bipolar disorder, mania, dementia, a substance-related disorder, a sexual dysfunction, an eating disorder, obesity, fibromyalgia, a sleeping disorder, a psychiatric disorder, cerebral infarct, tension, side-effects in the treatment of hypertension, a cerebral disorder, chronic pain, acromegaly, hypogonadism, secondary amenorrhea, premenstrual syndrome, undesired puerperal lactation, or combinations thereof"	'020 patent, claim 2 '921 patent, claims 10, 12-14	Entire preamble is limiting	"A method of treating," is not limiting

Plaintiffs provide no legal basis to consider the "method of treating" portions of the disputed preambles as limiting. Plaintiffs admit in their opening brief that the "method of treating" portions of the disputed preambles are statements of purpose. *See* Pls.' Br. at 19-20. It

is well established that mere statements of purpose or intended results should not be considered limiting. *See Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1375-76 (Fed. Cir. 2001).

Plaintiffs cite *Vizio, Inc. v. ITC*, 605 F.3d 1330 (Fed. Cir. 2010), for its general restatement of instances where a preamble may limit an invention. This cite is, however, unavailing. In *Vizio*, the Federal Circuit found the term "for decoding" to be limiting because it was "not merely a statement of purpose or intended use," but was an essential limitation without which the claim would be overly broad. *Id.* at 1340-41. Further, the Federal Circuit in *Vizio* noted that the specification and prosecution history indicated that the claims only covered apparatuses that could actually decode the information being gathered and stored according to the claims, and thus the limitation "for decoding" was a fundamental characteristic of the claim. *Id.*

The present case is much more akin to *Bristol-Myers* and its progeny that hold that preambles that constitute mere statements of purpose that have no bearing on the claimed methods should be considered non-limiting. *See* 246 F.3d at 1375 (steps of the claimed method are performed the same way regardless of whether a patient experiences the intended effect); *In re Copaxone 40 Mg Consol. Cases*, C.A. No. 14-1171-GMS, 2016 WL 873062 (D. Del. Mar. 7, 2016); *see also* Karpinski Decl. ¶¶ 35-38.

IV. CONCLUSION

For the reasons set forth above, Defendants respectfully request that the Court adopt Defendants' proposed claim constructions of the disputed claim terms.

Respectfully submitted,

OF COUNSEL:

Paul A. Braier
Michael J. Fink
Neil F. Greenblum
P. Branko Pejic
Jill Browning
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Pl. # 100
Reston, VA 20191
Tel: (703) 390-1298
Fax: (703) 716-1180
pbraier@gbpatent.com
mfink@gbpatent.com
ngreenblum@gbpatent.com
bpejic@gbpatent.com
jbrowning@gbpatent.com

PHILLIPS, GOLDMAN MCLAUGHLIN & HALL, P.A.

By: */s/ David A. Bilson*
John C. Phillips, Jr. (#110)
David A. Bilson (#4986)
1200 North Broom Street
Wilmington, DE 19806
Tel: (302) 655-4200
Fax: (302) 655-4210
jcp@pgmhlaw.com
dab@pgmhlaw.com

Attorneys for Defendant Accord Healthcare, Inc.

OF COUNSEL:

Jay R. Deshmukh
KNOBBE, MARTENS, OLSON & BEAR, LLP
1717 Pennsylvania Avenue, NW, Suite 900
Washington, DC 20006
Tel: (202) 640-6400
Fax: (202) 640-6401
jay.deshmukh@knobbe.com

William O. Adams
Karen M. Cassidy
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, 14th Floor
Irvine, CA 92614
Tel: (949) 760-0404
Fax: (949) 760-9502
william.adams@knobbe.com
karen.cassidy@knobbe.com

SMITH, KATZENSTEIN, & JENKINS LLP

By: */s/ Neal C. Belgam*
Neal C. Belgam (#2721)
Eve H. Ormerod (#5369)
The Brandywine Building
1000 West Street, Suite 1501
P.O. Box 410
Wilmington, DE 19899
Tel: (302) 652-8400
Fax: (302) 652-8405
nbelgam@skjlaw.com
eormerod@skjlaw.com

Attorneys for Defendants Alembic Global Holdings SA, Alembic Pharmaceuticals, Inc. and Alembic Pharmaceuticals Ltd.

OF COUNSEL:

Stephen R. Auten
Richard T. Ruzich
Ian Scott
Roger Kiley
TAFT STETTINIUS & HOLLISTER LLP
111 East Wacker Drive, Suite 2800
Chicago, IL 60601
Tel: (312) 527-4000
Fax: (312) 527-4011
sauten@taftlaw.com
rruzich@taftlaw.com
iscott@taftlaw.com
rkiley@taftlaw.com

MORRIS JAMES LLP

By: */s/ Kenneth Laurence Dorsney*

Kenneth Laurence Dorsney (#3726)
500 Delaware Avenue, Suite 1500
P.O. Box 2306
Wilmington, DE 19899
Tel: (302) 888-6855
Fax: (302) 571-1750
nbelgam@skjlaw.com
eormerod@skjlaw.com

Attorneys for Defendants Apotex Corp. and Apotex Inc.

OF COUNSEL:

Robert S. Silver
Salvatore Guerriero
Lynn Terrebonne, Ph.D.
Pei-Ru Wey, Pharm. D.
CAESAR RIVISE, PC
7 Penn Center, 12th Floor
1635 Market Street
Philadelphia, PA 19103-2212
Tel: (215) 567-2010
Fax: (215) 751-1142
rsilver@crbcp.com
sguerriero@crbcp.com
lterrebonne@crbcp.com
pwey@crbcp.com

CAESAR RIVISE, PC

By: */s/ R Touhey Myer*

R Touhey Myer (#5939)
King Street Plaza, Suite 304
800 North King Street
Wilmington, DE 19801
Tel: (302) 544-9100
Fax: (302) 544-9103
tmyer@crbcp.com

Attorneys for Defendant InvaGen Pharmaceuticals Inc.

OF COUNSEL;

J.C. Rozendaal
Michael E. Joffre
Miles J. Sweet
KELLOGG, HUBER, HANSEN, TODD, EVANS & FIGEL, P.L.L.C.
1615 M Street NW, Suite 400
Washington, DC 20036
Tel: (202) 326-7900
Fax: (202) 326-7999
jrozendaal@khhte.com
mjoffre@khhte.com
msweet@khhte.com

Dated: July 27 2016
1229998 / 42390

POTTER ANDERSON & CORROON LLP

By: */s/ Bindu A. Palapura*

David E. Moore (#3983)
Bindu A. Palapura (#5370)
Stephanie E. O'Byrne (#4446)
Hercules Plaza, 6th Floor
1313 N. Market Street
Wilmington, DE 19801
Tel: (302) 984-6000
Fax: (302) 658-1192
dmoore@potteranderson.com
bpalapura@potteranderson.com
sobyrne@potteranderson.com

Attorneys for Defendant Teva Pharmaceuticals USA, Inc.